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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/484,311	01/18/2000	James John Casto	1001-0087	9539

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EXAMINER

LEE, EUGENE

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 12/19/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/484,311

Applicant(s)

CASTO ET AL.

Examiner

Eugene Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 28-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27, 37 and 38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I (claims 1-27, 37 and 38) in Paper No. 6 is acknowledged.
2. Claims 28-36 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 6.

Drawings

3. Fig. 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

Specification

4. The disclosure is objected to because of the following informalities: on page 4, line 7, the word "to" is missing; on page 11, line 20, both labels for the Via are the same.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. Claims 1 thru 5, 10, 17, 22, and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Devanney '641 B1. Devanney discloses (see, for example, Fig. 1A) a fuse (programmable element) 100 comprising a fuse body (programmable link) 120 and two fuse terminals (first and second end) 130. In Fig 3, a fuse is connected to a Vcc line and an internal node X. The fuse terminals lead down to underlying circuit elements. See, for example, column 1, lines 51-56. A layer of insulating material (protective layer) 110 covers the fuse.
7. Claims 1 thru 5, 7, 8, 11, 20, 22, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Hilgers '818. Hilgers discloses (see, for example, Fig. 3) a fusible device comprising fuses F_a - F_E wherein the fuses are coupled to V_{in} . Fig. 2 shows the fuses each comprising a fuse element (one-time programmable element) 13, narrow portion (programmable link) 15 and fuse terminal portions (first and a second end) 16. Programming terminals A-F rest at one end of the fuse terminal portions. A layer of glaze (protective layer) 14 covers the fuse element.
8. Claims 1 thru 3, 7, 9, 17, 18, 37 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Bohr et al. '291. Bohr discloses (see, for example, FIG. 1B) a fusible link device comprising a fuse region (programmable link) 122, and contact regions (first and second ends) 120. FIG. 3 shows the fuse coupled to V_{ss} . The fusible link device also includes contacts 101 that provide an electrical connection between the fuse device and an external device. For example, FIG. 4 shows the fuse device 450 coupled to a program input 418 and ground V_{ss} . A programming current or voltage (parameter) is required to program the fusible link device.

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8. Claims 1 thru 4, 7, 9, 10 thru 13, 17, 18, 20, 21, 26, 37 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Nathan et al. '881. Nathan discloses (see, for example, FIG. 1) a fuse structure comprising fuses 9AA-9EE. The fuses possess a narrow central portion. Via holes 3A-3E, 4A-4E, and 8AA-8EE receive the terminals of electronic components, i.e. integrated circuit. See, for example, column 9, lines 8-10. In FIG. 16C, Nathan shows a matrix of fuses 1615AA-1615FF wherein each fuse is connected to Vpp and GND. Nodes are present in between each set of fuses. See, for example, column 34, lines 31-41. Component contacts 1612A-1612F and 1610A-1610F are used to couple to electrical contacts. Regarding the use of antifuses, see, for example, column 5, lines 48-56. Regarding claim 4, see, for example, column 4, lines 61-*. Regarding claims 10 and 11, see, for example, column 4, lines 3-14.

9. Claims 1, 2, 7 thru 9, 11, 12, 14 thru 18, 20 thru 23, 26, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Crafts et al. '968. Crafts discloses (see, for example, FIG. 3) a fuse array comprising fuse structures 10 wherein a first and second end is coupled to Vdd, external I/O terminals or resistors 40.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Devanney '641

B1. Devanney discloses the claimed invention except for the programmable element being not

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covered by a protective layer. It would have been obvious to one of ordinary skill in the art at the time of invention was made to exclude the protective layer, since it has been held that omission of an element and its function in a combination where the remaining elements perform the same function as before involves only routine skill in the art. In re Karlson, 136 USPQ 184.

12. Claims 19, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crafts et al. '968 as applied to claims 1, 2, 7 thru 9, 11, 12, 14 thru 18, 20 thru 23, 26, and 27 above, and further in view of Barth, Jr. et al. '616. Crafts does not disclose the integrated circuit die including a processor wherein the processor is programmed (to perform various functions) by programmable elements. However, Barth, Jr. discloses (see, for example, column 12, lines 10-34) a semiconductor memory device wherein fuses are programmed to perform an error correction. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to program fuses in order to perform functions within the cell.

INFORMATION ON HOW TO CONTACT THE USPTO

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Lee whose telephone number is 703-305-5695. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on 703-308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Eugene Lee
December 13, 2001

A handwritten signature in black ink, appearing to read 'Eddie Lee', with a stylized, flowing script.

EDDIE LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800